ABSTRACT

EFFECT OF DIETHYLPHTHALATE CONCENTRATION AS PLASTICIZER ON VIABILITY AND PROTECTION MICROPARTICLE *Lactobacillus casei* FNCC 0090 FROM ACIDIC CONDITION

(Using Methacrylic Acid Copolymer L Type)

Microparticle was an efficient system to protect probiotic from extreme condition in gastric and release them in intestine. The most used probiotic is *Lactobacillus casei*. Microparticle *Lactobacillus casei* was made by *spray drying*. There were four formulas such as formula I, formula II, formula III and formula IV. Every formulas contain methacrylic acid copolymer L type 1% and different concentration of diethylphthalate. Formula I contain diethylphthalate 0%, formula II with diethylphthalate 10%, formula III with diethylphthalate 20%, and formula IV contain diethylphthalate 30%. Viability and protection microparticle from acidic condition were performed to all formulas. The result showed that the highest viability *Lactobacillus casei* after encapsulation was obtained by formula II with no significant difference between each formulas. The result of protection microparticle *Lactobacillus casei* from acidic condition test showed that increasing diethylphthalate concentration decrease protection microparticle form acidic condition with no significant difference between each formulas.

Keywords: Microparticle, microencapsulation, spray dry, diethylphthalate, probiotic, *Lactobacillus casei*, viability, protection